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Educational Television Series 1968-69

Teachers' Guide

DEPT. OF EDUCATION
HISTORICAL COLLECTION

Science JUNIOR DIVISION

Relationships in Nature Part 2

Educational Television Branch
ONTARIO DEPARTMENT OF EDUCATION
1670 Bayview Avenue, Toronto 17

SCIENCE
Junior Division

RELATIONSHIPS IN NATURE – Part 2

10 programs, 15 minute each.

This is Part 2 of a two-part series. Part 1 includes Programs 1 to 4.

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INTRODUCTION

At the Junior level, science is a way of working rather than merely the accumulation of knowledge. The idea that science is an organized body of knowledge is recognized by some children at a later stage, but not by all. It is only after a great amount of free-ranging investigation that the child is able to stand back, to look at what has been learned, and to put his knowledge into an organized form.

The general aim of this series is to stimulate active classroom involvement in practical experiences by using instances from each program as starting points. Visual and oral questions will be presented in each program to help the children get a start in some activity. It is expected that each teacher will provide the atmosphere and materials necessary for the pupils' needs. The "Classroom as a Workplace for Science", as outlined in the Interim Revision, Science (P1, J1), suggests an excellent situation for implementing this aim.

Each program provides some background information as well as starting points for student investigations. To assist planning for the series, a flow chart of possible follow-up activities accompanies each program guide.

The series was filmed in two different locales in Ontario and focuses on the experiences of two young boys as each explores the countryside.

Scheduling for this series can be found in the monthly ETVO SCHEDULE sent to all teachers. For long-term planning, reference can be made to the ETV Schedule (Calendar), which lists programming from October to June and was mailed to all teachers. However, it is most important to check the monthly ETVO SCHEDULE for the last minute changes always involved in extensive programming.

PROGRAM 5

ROCK PILES

PROGRAM CONTENT

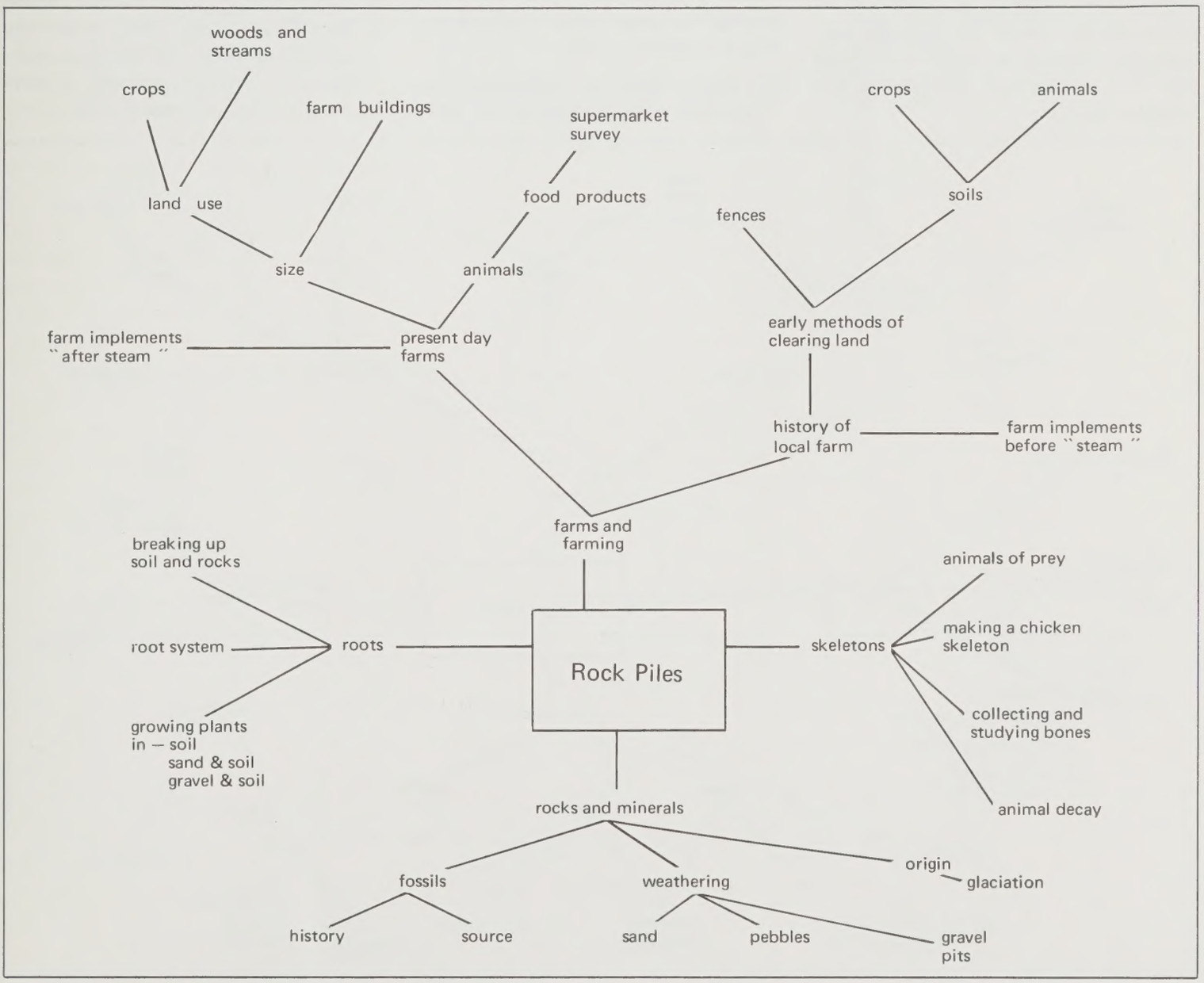
Isolated rock piles, tucked away in fields, offer a wealth of information to be explored. The program introduces viewers to some of the plant and animal life present in open fields. Problems of historical significance develop as the area around the rocks is explored. Where did the rocks come from? How can the variety of rock structures be accounted for? How does weathering and vegetation affect rocks? What can be learned from the broken farm implements, the uprooted trees, the bones? These questions provide the background for a program designed to arouse the viewers' interest in the relationship between rocky areas and the forms of life found in these areas.

SUGGESTED POST-VIEWING ACTIVITIES

1. A study of the formation and decay of rocks provides an introduction to the field of geology.
2. Direct the attention of students to glaciation as an explanation of the origin and variety of rocks.
3. To emphasize the relationships between environment and animal and plant life, suggest that students make a survey of animals and plants which might inhabit a rocky area, such as the one shown in the program.
4. Have the children consider the information which can be obtained from animal droppings, bones, furs, etc.
5. The program provides an excellent lead-up to a study of early farming in Ontario, commencing with the problem of clearing rocky land.
6. The study of a local farm would be a natural follow-up to the ideas suggested above. For the urban child this could be a stimulating and informative undertaking. A study in depth of this type would add a new dimension to the experiences of the rural child who may take his environment for granted.

BIBLIOGRAPHY

Elementary Science Study. *Preparing a Chicken Skeleton.* McGraw Hill, 1967.



PROGRAM 6

ROCK GLEN

PROGRAM CONTENT

A stream slowly winds its way through an open field and then abruptly drops into a deep ravine. The drop forms a waterfall and presents the casual explorer with one of the most unique geological features in North America.

Rock Glen is one mile north of Arkona, Ontario on Hwy. 7. Visitors are welcome to this conservation area and a carefully planned trip is well worth the effort. Our exploration of the stream reveals several areas of erosion exposing different rock structures, fresh water clams, crayfish, a great quantity of fossil animals and a sulphur spring. The program conveys impressions of an environment rarely seen, and the sorts of relationships that have developed in it.

SUGGESTED PRE-VIEWING ACTIVITIES

1. A study or discussion of any local falls (including Niagara Falls) will supply information on the formation of waterfalls.

2. A careful check of driveway gravel might produce some fossil specimens. These, combined with other samples, as well as information from pictures and books, will add to the general explorations in the program.

3. The following words could be noted: *fossil, glen, gorge, erosion, conservation.*

SUGGESTED POST-VIEWING ACTIVITIES

1. Study a map to see if you can locate on it a stream or river which flows near your school. Trace the course which the water follows on its journey to the Atlantic Ocean.

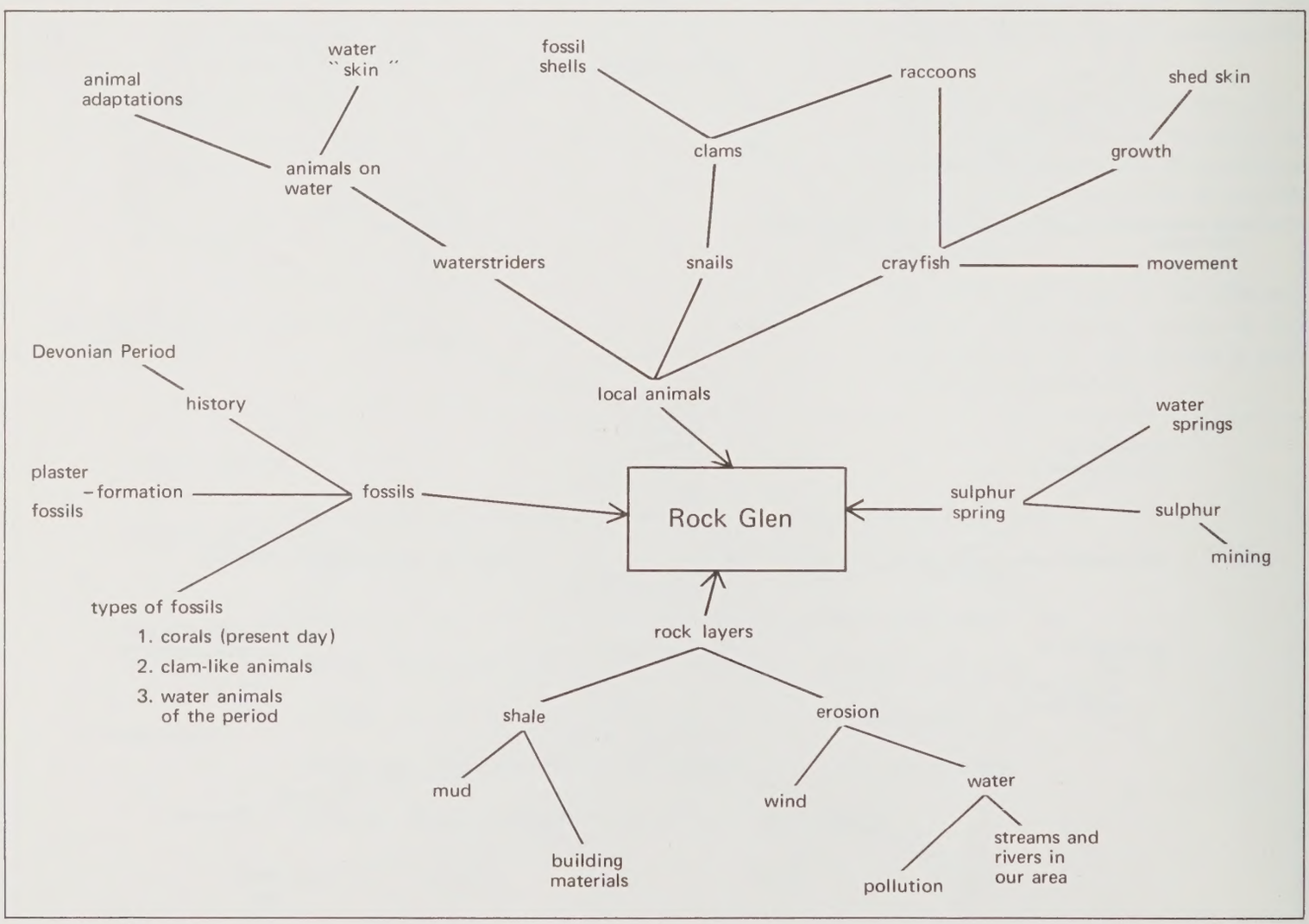
2. A trip to Rock Glen has already been suggested. For more information write:

   Rock Glen Enterprises,
   Rock Glen Falls,
   No. 7 Highway at Arkona,
   Ontario.

   A worth-while investment is the booklet "The Fossils of Rock Glen", available at the above address at a cost of ten cents.

3. Find out something about fossils in your own area, what they are, how they were formed, and how scientists determine their age. Rock out-croppings, gravel deposits and lake or river beds are generally a good source of fossilized animals.

4. Investigate different types of animals which use shells for homes or protection. Make a chart showing which live in fresh water, which in salt. By drawing diagrams of these animals, see what features they have in common and what differences exist.



PROGRAM 7

RELATIONSHIPS IN WINTER

Details of this program were not available at the time this guide was written and will be mailed out at a later date. The main theme will deal with the effect of the winter climate on animal and plant relationships within the environment. Problems will be presented for active classroom follow-up and for outdoor trips.

PROGRAM 8

THE DECAYING WOODS

PROGRAM CONTENT

To the casual observer the woods are a quiet retreat from the bustle of everyday life. This program presents a different picture. It shows the harsh reality of animal survival and the slow but continuing process of decay and change. Stumps are examined for insects. Maggots are seen gorging themselves on decaying life. Other types of animals and plants also depend upon some source of food – dead or alive. A swamp reveals a complete picture of the birth-death cycle. In a nearby bog, pitcher plants digest any insects that venture too near. The program presents a wealth of visual information about relationships in a swampy area.

SUGGESTED PRE-VIEWING ACTIVITIES

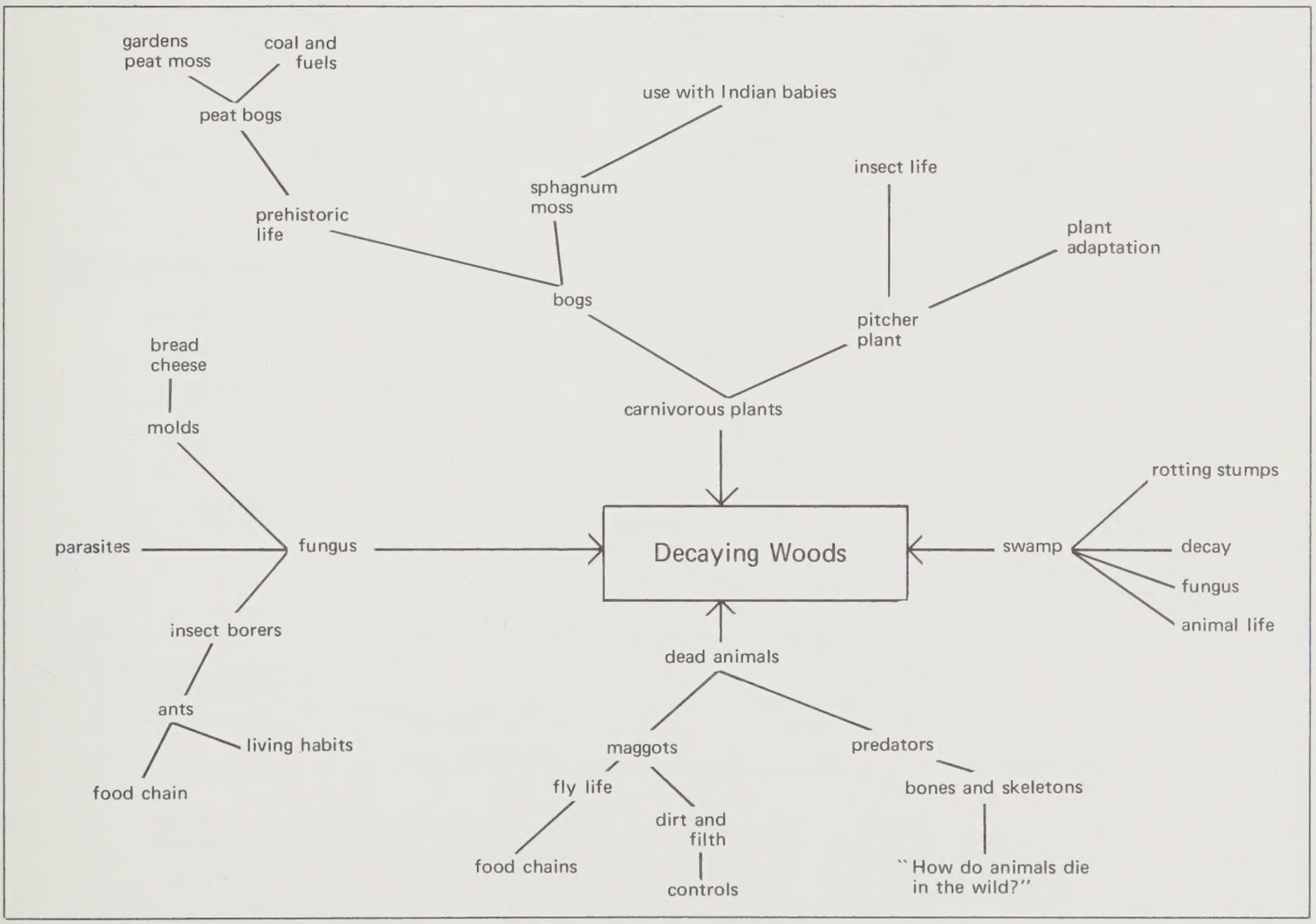
1. Words and phrases for review and study include:

   wood borer, profusion, decay – plant decay, fungus, parasite, larva, sphagnum moss, carnivorous plants, bog, swamp, adaptation, specie.

2. Gather samples of material that show some stages of decay; for example, twigs or branches from the woods, decaying bread, cheese or any vegetables. A display of these prior to the program will supply a natural lead-in to interest the children.

SUGGESTED POST-VIEWING ACTIVITIES

1. Investigate the causes of decay. Why will some things decay and others not? In either case, what problems might result? Consider aspects of pollution and the problem of non-returnable bottles.
2. Discuss types of decay which occur around the home, noting those which are beneficial and those which are harmful. Set up some decay situations using bread, cheese, fruit, meat, wood, metal, cloth.
3. Make a study of parasites or carnivorous plants.



PROGRAM 9

A PLACE TO LIVE

PROGRAM CONTENT

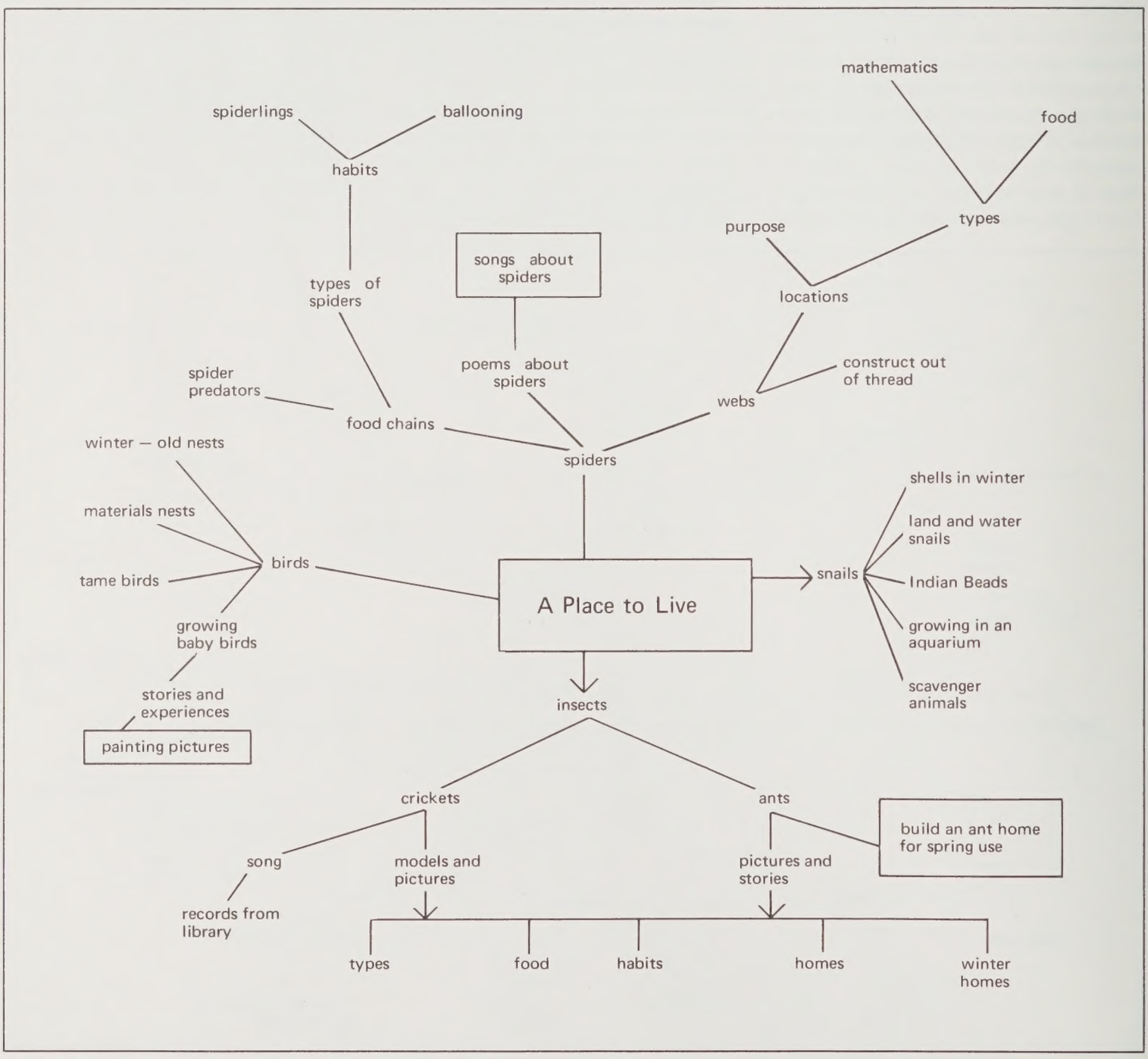
Animal homes, often overlooked, provide us with many interesting problems related to the struggle to survive. This program presents a small sampling of the homes to be found near a pond, in a field and in a wood. The viewer's attention is directed to both familiar and unfamiliar homes such as birds nests, ant colonies, spider webs, leaf galls, and snail shells. Problems, both implied and directly stated, are raised for the children to ponder.

SUGGESTED PRE-VIEWING ACTIVITIES

1. Any collection of homes, such as shells of various types, or galls which you are able to gather will provide an introduction to the program.
2. A book collection that might aid activities suggested in the flow chart could be displayed.

SUGGESTED POST-VIEWING ACTIVITIES

1. Check the flow chart for possible follow-up activities. Any avenue of approach will meet with success if both materials and opportunity for active involvement are provided.
2. A variety of homes could be established in the classrooms for such animals as fish, mice, gerbils, hamsters, or ants.
3. List the similarities and differences between animal homes and our homes. Is the location of the home important?
4. Sketch several types of homes, noting the relationship to geometric shapes.



PROGRAM 10

SOMETHING FOR NOTHING

PROGRAM CONTENT

In this program, Mr. Paul Park, Science Project Director of the Ontario Institute for Studies in Education, accompanies a class of children from Bishop Townsend Public School, London, to the site of a demolished building.

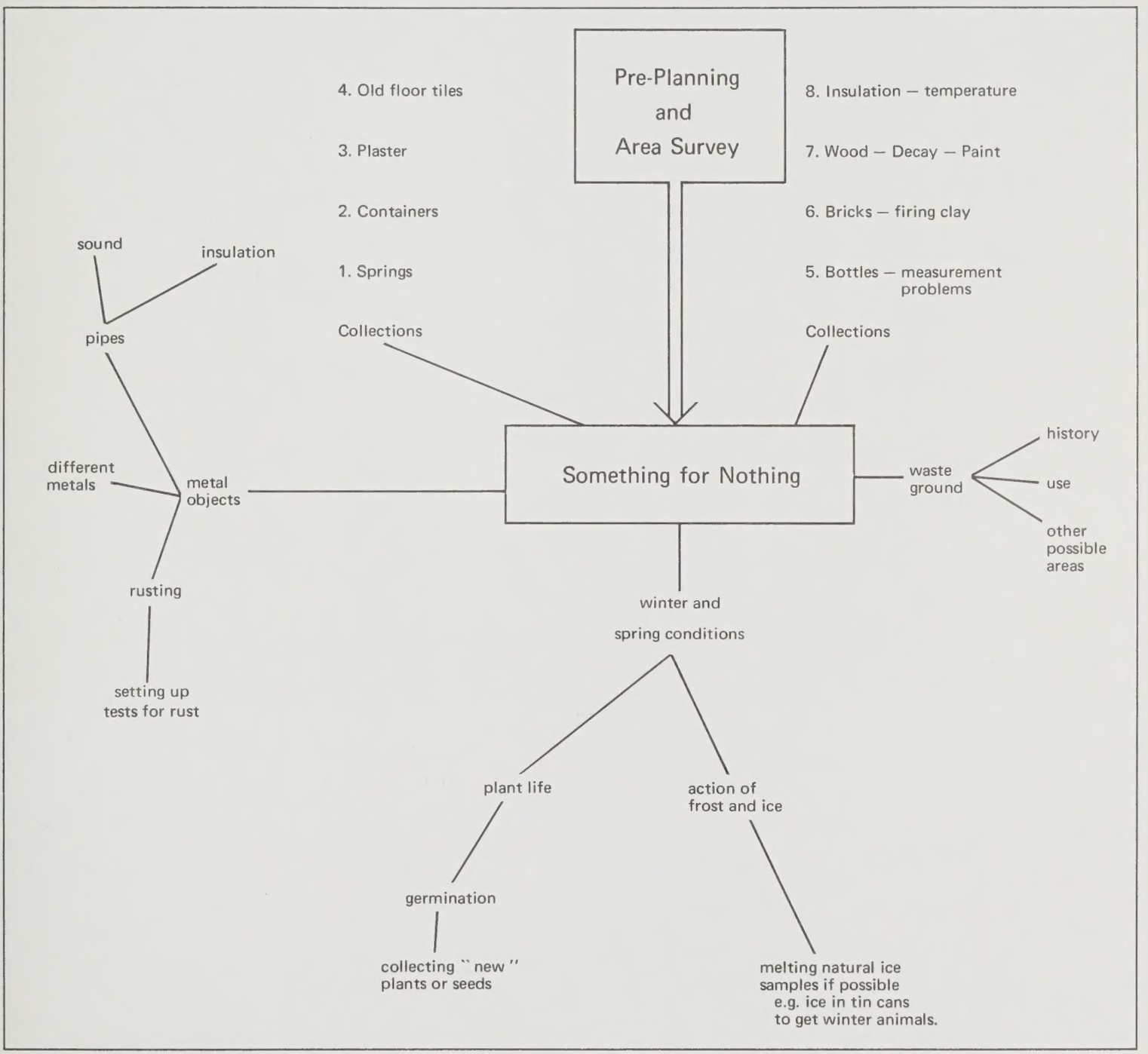
The area selected is rich in materials for student investigations. With the help of parents a large amount of material is brought back to the school yard. Building materials provide the focal point and problems develop when examining bricks, plaster, pipes, insulation and general odds and ends.

SUGGESTED PRE-VIEWING ACTIVITIES

1. This type of activity has definite application to topics mentioned in the Interim Revision-Science (P1, J1; page 25), and to the flow chart on page 26.
2. A survey of local waste ground areas for a future visit will add an excellent follow-up to the program.

SUGGESTED POST-VIEWING ACTIVITIES

1. Visit the site of a demolished building. The greater the variety of materials present, the greater the opportunity for spontaneous enquiry.
2. Arrange to have a variety of items brought back to the school. These can become the starting point for a number of individual or group projects similar to those shown in the program.
3. A construction site likewise offers many opportunities for investigation. Observe safety rules when visiting the types of areas suggested.



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